

for the fact that the Republic has twice the population of Northern Ireland, is between 71 and 82 percent of the volume of transactions between Northern Ireland and Britain. The higher figure for passenger movements probably reflects the fact that the Republic attracts a greater number of tourists than the North. The lower figure for telephone calls reflects the pricing policy of the British Post Office; whereas letters to the Republic cost no more than letters to Northern Ireland, telephone calls are much more expensive. The general conclusion must be that the separation of the Republic from the United Kingdom has made some difference to the volume of transactions between people in the two countries, but not a great deal.

This very brief summary indicates the high degree of interdependence between Britain and the Irish Republic more than fifty years after they separated. It does not seem unreasonable to assume that if Scotland were to secede from the United Kingdom, or Quebec were to secede from Canada, subsequent relationships between these countries would be marked by a similar degree of interdependence.

Of course, secession also involves special problems that vary from case to case. In the Irish case, the special problem was the conflict between Catholics and Protestants, the consequent partition of Ireland, and the subsequent difficulties of the Catholic minority in the North and the Protestant minority in the Republic.²⁶ In the Scottish case, the special problem would be that of dividing the revenues from North Sea oil in a manner acceptable to both Scotland and England. In the case of Quebec, the special difficulties would be the position of the English-speaking minority in Quebec, and the problem of communications between the Maritime Provinces and the rest of Canada. In any example of possible secession, there are distinctive problems which are peculiar to the area.

These problems tend to be considerable, and it is perhaps natural that politicians and journalists should focus most of their attention on them. But one of the advantages of an academic approach is that problems of this kind can be put into a wider perspective and viewed with a fair degree of detachment. If this is done, the possibility that minority nationalist movements may in some cases lead to secession can perhaps be viewed with more equanimity than is common among political commentators discussing such questions.

²⁶ The difficulties of the Catholic minority in Northern Ireland have been amply documented in recent years, most carefully in Denis P. Barritt and Charles F. Carter, *The Northern Ireland Problem* (rev. ed., London: Oxford University Press 1972). For the difficulties of Protestants in the Republic, see Harold Jackson, *The Two Irelands* (London: Minority Rights Group 1971).

RATIONALITY AT THE BRINK:

The Role of Cognitive Processes in

Failures of Deterrence

By JACK L. SNYDER*

I. INTRODUCTION: RATIONALITY IN A TWO-VALUE GAME

ACCORDING to the scenarios imagined by most strategists, nuclear confrontation is a game involving a trade-off between two values. First, there is the value associated with the immediate issue of contention: for instance, in the Cuban missile crisis, maintaining U.S. prestige in the world arena; in the Berlin crisis, maintaining the credibility of U.S. commitments. Second, there is the value of minimizing the possibility that an unwanted general war could result from this superpower confrontation. Assuming a strong commitment on the part of both adversaries, any policy that tries to attain the value associated with the immediate point of contention will tend to increase the likelihood of general war. Conversely, any policy that seeks to maximize the avoidance of war will jeopardize the protection of the first value.¹

Trying to understand the dynamics of this two-value game has been a chief preoccupation of strategists since the advent of nuclear weaponry. It is important, first of all, to understand how this game should be played, so that the decision maker will be able to recognize the strategies that give him the best chance of optimizing his interests and preparing an appropriate force posture, military doctrine, and diplomatic strategy. At the same time, it is also important to understand how the game will be played by flesh-and-blood decision makers. This understanding is crucial for two reasons: (1) Since each player's optimal strategy depends on the strategy adopted by his opponent, such an understanding may help the player to estimate his opponent's probable responses and to adjust his own strategy accordingly; (2) If the non-optimizing strategies adopted by human decision makers tend to occur in regular patterns, then a knowledge of these patterns may help each player to monitor his own strategies.

* An earlier draft of this paper was prepared for Professor Warner Schilling's Colloquium on Military Technology and International Relations at Columbia University, and appeared in the Rand Corporation paper series (P-5740, October 1976). The earlier version includes a more extensive discussion of the 1914 case.

¹ This trade-off relationship is discussed in Alexander L. George, David K. Hall, and William R. Simons, *The Limits of Coercive Diplomacy: Laos, Cuba, Vietnam* (Boston: Little, Brown 1971), 232-38.

Most discussions of the dynamics of nuclear confrontations have tended to telescope these two questions—"which strategy *should* logically be adopted?" and "which strategy *will* in fact be adopted?"—into a single issue. Either implicitly or explicitly, it is assumed that players will tend to employ strategies which, in a rough way, optimize their values. Take, for example, Thomas Schelling's method for overcoming the shortage of empirical evidence regarding the behavior of decision makers in a nuclear confrontation: "You can sit in your armchair and try to predict how people will behave by asking how you would behave if you had your wits about you. You get, free of charge, a lot of vicarious, empirical behavior."²

According to Schelling, the very foundation of strategic theory is "the assumption of rational behavior—not just of intelligent behavior, but of behavior motivated by a conscious calculation of advantages."³ The theory of deterrence, which receives its most difficult test in the type of superpower confrontation that is under discussion here, rests on such premises. One of its key assumptions is that the deterree will make an estimate of probable costs and probable gains and, on that basis, will be deterred from pursuing a policy that is likely to lead to nuclear war, since no possible gains could outweigh the costs of a nuclear exchange. The theory of deterrence explicitly assumes that the decision maker will recognize the trade-off between the two values and that he will employ a strategy which effects the optimal trade-off between those values, as determined by the decision maker's indifference curve.⁴

Similarly, the strategy of "compellence," as outlined by Schelling in *Arms and Influence*,⁵ assumes that the compellee will recognize trade-offs and make the appropriate cost-benefit calculations. That is, once the compeller has "rigged the incentives so that the other party must choose in [the compeller's] favor," it is assumed that the compellee will weigh those incentives correctly and recognize his obligation to capitulate.⁶

Strategic research has concerned itself primarily with the internal logic of deterrence theory. To be sure, many strategists include caveats regarding the fragility of rationality in crisis situations. For example, Bernard Brodie cautions his readers not to let the seemingly powerful

² From Schelling's article in Kathleen Archibald, ed., *Strategic Interaction and Conflict* (Berkeley: University of California Press 1966), 150, as quoted in Graham Allison, *Essence of Decision* (Boston: Little, Brown 1971), 19.

³ Thomas Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press 1960; citation from New York: Oxford University Press 1963), 4.

⁴ Thomas Schelling, *Arms and Influence* (1971 ed., New Haven: Yale University Press 1966), 69ff.

⁵ Schelling (fn. 3), 37; emphasis added.

logic of deterrence make them sanguine about the improbability of nuclear attack. Brodie points out that it may not be realistic to assume a dispassionate calculation of costs and benefits under conditions of great uncertainty, especially when an attack is perceived as imminent.⁶ Still, the implications of such insights have remained largely unpursued.

There does exist, however, a considerable body of research into non-rational influences on the decision process which might profitably be applied to the problem of deterrence in time of crisis. Most of this research approaches the problem in terms of constraints on an essentially rational decision process—constraints which, nevertheless, may be so great as to completely undermine the rationality of that process. Such constraints may include:

(1) Organizational dynamics, e.g., the organizational processes and bureaucratic politics outlined in Graham Allison's *Essence of Decision*.⁷

(2) Idiosyncratic psychopathologies that may prevent value optimization, as illustrated in Alexander and Juliette George's *Woodrow Wilson and Colonel House*.⁸

(3) Non-idiosyncratic cognitive processes that evaluate information and options according to nonrational principles. Phenomena included in this area would be, for example, (a) the tendency to establish, on the basis of inadequate information, a stereotyped image of the adversary and then to maintain that image tenaciously by means of unconscious, selective processing of information,⁹ and (b) the alleged tendency of decision makers to advocate riskier policies when responsibility for the decision is shared with a group than when the individual is solely responsible.¹⁰

A more ambitious approach to nonrationality in decision making can be found in John Steinbruner's *The Cybernetic Theory of Decision*.¹¹ Steinbruner does not so much describe mere constraints on rational

⁶ Brodie, *Strategy in the Missile Age* (Princeton: Princeton University Press 1965), 180.

⁷ Allison (fn. 2).

⁸ George and George, *Woodrow Wilson and Colonel House* (New York: Dover Publications 1956).

⁹ John D. Steinbruner, *The Cybernetic Theory of Decision: New Dimensions of Political Analysis* (Princeton: Princeton University Press 1974), 101.

¹⁰ See Irving L. Janis, *Victims of Groupthink: A Psychological Study of Foreign Policy Decisions and Fiascos* (Boston: Houghton Mifflin 1972), esp. 236-37. This shift-to-risk hypothesis has come under criticism in recent years, however. See W. L. Tullar and D. F. Johnson, *Group decision-making and the risky shift: a transnational perspective* (Technical Report 48, Rochester, N.Y.: Management Research Center, University of Rochester 1972).

¹¹ Steinbruner (fn. 9).

decision making as an entirely independent, nonrational process by which decisions are made. The operation of this process is based on the model of a computer's feedback loops, supplemented by the general principles that govern the operation of non-idiosyncratic cognitive processes—principles which have been established by experimental psychology.

Steinbruner's model posits rules of decision that reject the rational analytic method. In his model, values that are in a trade-off relationship are not integrated, but pursued separately. Indifference curves are not constructed, even implicitly; probable outcomes are not estimated; no attempt is made to optimize values. Under conditions of uncertainty, decisions are structured not by rational-analytic procedures, but by non-rational rules of cognitive operations. For example, the decision maker will tend to conceptualize his decision environment so as to avoid recognizing trade-off relationships between his values. Trade-offs violate the principle of cognitive consistency. Hence, when the environment is sufficiently unstructured to permit some interpretive latitude, the decision maker will suppress the trade-offs by conceptualizing his world in such a way that the values do not appear to conflict.

Furthermore, Leon Festinger points out that decision makers can solve their cognitive dilemma by conceiving their decision as being wholly determined by the course of external events. "It is possible . . . to reduce or even eliminate the dissonance by revoking the decision psychologically. This would consist of . . . insisting that really no choice had been made for which the person had any responsibility."¹²

In sum, Steinbruner's model holds that there are strong cognitive forces in operation under conditions of uncertainty which predispose decision makers to deny the existence of trade-offs, to deny choice, and to impute unwarranted certainty to this view of their situation.

If Steinbruner's model is an accurate description of decision making under uncertainty, it places the stability of deterrence in a new and disconcerting light. Whereas deterrence theory requires at least an implicit recognition of trade-offs, Steinbruner's model suggests that human decision makers are under cognitive pressure to conceptualize their decision environment in such a way as to deny the existence of trade-offs.¹³

¹² Leon Festinger, *A Theory of Cognitive Dissonance* (Evanston, Ill.: Row, Peterson 1957), 43-44.

¹³ Steinbruner has discussed the implications of his theory for deterrence strategies in "Beyond Rational Deterrence: The Struggle for New Conceptions," *World Politics*, xxviii (January 1976). The discussion presented here takes a different direction and should not be construed as reflecting Professor Steinbruner's views on the implications of his model for deterrence theory.

Compellence strategies—generally viewed as rather reckless even by conventional analysts—appear even more troublesome in this light. Adopting a compellence strategy permits the compeller to forswear choice and avoid his trade-off, so decision makers under uncertainty—as in a nuclear confrontation—should be predisposed to adopt this type of tactic. Furthermore, a "cybernetic decision maker" who is in the position of the compellee may not accurately perceive his incentive to capitulate—especially if he too is locked into a no-choice compellence strategy.

Despite this gloomy picture, there exists a possible mitigating factor even within Steinbruner's scheme: the so-called "reality principle." Only when uncertainty is great—in unstructured situations—do non-rational cognitive principles have full rein. When a decision environment is highly structured—that is, when uncertainty is low and the trade-off is unavoidably self-evident—the reality principle may not permit the decision maker to avoid the realistic calculations and tough choices required by the rational-analytic process of decision. Hence, the relevant question becomes: is the specter of nuclear destruction a sufficiently palpable constraint so that (1) it imposes an undeniable structure on the decision environment, and (2) it forces the decision maker to recognize the trade-offs inherent in his situation, despite the cognitive costs this entails? *Slight nos., "yes."*

In order to answer this question and, more generally, in order to test the plausibility of Steinbruner's cybernetic model of decision, it will be helpful to examine a historical case, the stakes and structure of which resemble those of the hypothetical nuclear confrontations imagined by strategic analysts. American decision making during the Cuban missile crisis has these characteristics. The "objective" structure of this case (as opposed to its perceived structure) involved a trade-off between two values—the avoidance of an unwanted war of monumental proportions and the securing of a web of interests related to the maintenance of political prestige and military power. *and domestic power: office, cong.!*

With regard to the Cuban case, one may ask three questions: How did U.S. decision makers deal with their value trade-off problem? How did they perceive their options? And, what are the implications of their behavior for our ideas about deterrence?

Before proceeding with a fuller explanation of the relevant aspects of Steinbruner's theory and with the analysis of the case study, some of the assumptions and limitations of this analysis should be made explicit.

(1) The psychological principles on which Steinbruner's theory rests will be accepted as representing a rough consensus based on the disci-

** DB: Windfall / continue with analysis*

pline's experimental work. In any event, the test for these principles will be in the plausibility of the explanation they suggest for the case study.¹⁴

(2) This analysis offers no rigorous technique for *conclusively* demonstrating that a particular set of policy options was structured by non-rational cognitive pressures rather than by an analytic approach. If a player decides that circumstances leave him only one option, how can the objectivity of that view be disproved? Certainly, there may be situations in which even a *rational* decision maker is left with the single option of initiating an unwanted war—or at least *risking* its immediate provocation. Psychologist Jack Brehm points out that, even in experimental conditions, it may be impossible to determine whether an effect is caused by cognitive dissonance or whether it is simply a case in which rational rules of decision produce the same results as nonrational cognitive rules.¹⁵ This analysis does not mean to refute the view that a model based on constrained rationality can explain the Kennedys' conceptualization of their problem. However, circumstantial evidence will cast doubt on such an explanation. In any case, it is not the goal of this analysis to design a classical experiment, pitting the cybernetic model against the rational-analytic one, but rather to test the rough plausibility of Steinbruner's approach and to determine whether it might suggest insights that have interesting ramifications for strategic theory.

(3) It is dangerous to generalize on the basis of one case study—or, more accurately, on the basis of only one side of one case. It is doubly dangerous when one of the unexplored aspects—the Soviet process of decision—offers a possible disconfirmation of the main hypothesis. That is, despite uncertainty, the Soviets did not lock themselves into a no-choice policy. Still, in the absence of hard information regarding the Soviet process of decision, one can only speculate about the respective roles of analytical and cognitive factors in shaping the Politburo's conception of the crisis and its choice of options. That speculation will be reserved for the conclusion.

II. THE ANALYTIC VERSUS THE CYBERNETIC/COGNITIVE MODEL OF DECISION

In a two-value game such as a nuclear confrontation is likely to represent, the rational-analytic approach to decision making is charac-

¹⁴ These principles and some of their experimental underpinnings are presented in Steinbruner (fn. 9); Festinger (fn. 12); Janis (fn. 10); Jack W. Brehm and Arthur R. Cohen, *Explorations in Cognitive Dissonance* (New York: Wiley 1962); and Joseph H. deRivera with James N. Rosenau, *The Psychological Dimension of Foreign Policy* (Columbus, Ohio: Merrill 1968).

¹⁵ Brehm and Cohen (fn. 14), 71.

terized by (1) the "integration" of the conflicting values by means of an explicit or implicit indifference curve; (2) cost-benefit calculations; and (3) the estimation of the expected outcomes of alternative policies in order to determine the best means of achieving an optimal trade-off of values. Uncertainty is treated as a statistical problem. The decision maker is sensitive to all relevant information.¹⁶

In his cybernetic theory of decision, John Steinbruner has attempted to formulate a decision paradigm that is equal in scope to the analytic paradigm, but entirely different in its operating principles. It is organized around two concepts: "short-cycle information feedback" and the *elimination of uncertainty*.¹⁷

THE CYBERNETIC MODEL

Steinbruner takes as his model simple, cybernetic decision mechanisms—such as the thermostat—which effectively solve problems without the complex calculations required by the analytical model. Since the cybernetic mechanism makes no calculations, it is unaffected by uncertainties which may stem from a lack of relevant information, and which would stymie an analytic decision maker.

Despite its simplicity, such a mechanism can produce highly adaptive behavior:

Roughly speaking, the mechanism of decision advanced by the cybernetic paradigm is one which works on the principle of the recipe. The decisionmaker has a repertory of operations which he performs in sequence while monitoring a few feedback variables. . . . The cook, in this model, does not construct the relative preference for sweetness or tartness for an average range of customers in baking pies. Rather, he follows established recipes and watches attendance at the restaurant and the rate at which his pies disappear.¹⁸

This is essentially a satisfying method rather than an optimizing one. Sequential attention is given to alternatives until an adequate one is found.¹⁹

"VALUE DISAGGREGATION"

A cybernetic mechanism cannot deal with the problems of conflicting values. It must disaggregate them and attend to them sequentially. Or it must assign them to separate parts of the decision mechanism, such as *different agencies within the government*. Of course, this disaggregation of conflicting values is likely to result in a decrease in the efficiency

¹⁶ For fuller explanation and illustration of the rational-analytic paradigm, see Steinbruner (fn. 9), and Paul Samuelson, *Economics* (New York: McGraw-Hill 1973).

¹⁷ Steinbruner (fn. 9), 51.

¹⁸ *Ibid.*, 55.

¹⁹ *Ibid.*, 62.

of the mechanism, as some of its policies work at cross-purposes with other policies. Steinbruner cites the following example:

... separate entities of the government construct river projects to control floods, on one hand, and to provide disaster relief to pay for flood damage on the other. Though the separate problems jointly affect private investment in flood plain areas, they are operated separately and decisions about them are made separately. Jointly over the years, they have produced uneconomic investment in flood-plain areas so that the more flood control projects that have been constructed, the greater the national flood losses have become. Since the decision process treated the programs as separate issues, no one noticed the inherent problems until the investment had been made and the paradoxical flood losses began to occur.²⁰

Sometimes, conflicting values cannot be disaggregated by sequential attention or by assignment to different bureaucratic pigeonholes.²¹ The value conflicts inherent in crisis diplomacy are of this kind. Any decision maker knows he must consider the closely related problems of war avoidance and diplomatic success simultaneously, not sequentially. He cannot tell one bureaucracy to worry about avoiding war and another to concern itself only with winning the confrontation. If the value conflict is to be eliminated, it must be done by psychological means, not bureaucratic ones.

The human mind, of course, can and will deal with such trade-offs analytically if compelled to do so by a highly structured decision environment. However, trade-offs violate the experimentally established principle of cognitive consistency. Therefore, if the decision environment is sufficiently unstructured and entails sufficient uncertainty so that there is leeway for interpretation, the decision maker will tend to conceptualize the problem in such a way that the trade-off can be denied. In other words, if the point of view that there is no trade-off relationship can be taken (that is, if it is not precluded by the "reality principle"), then it will be taken. Thus, the problem is cast in a form with which the cybernetic decision maker can deal.²²

Once such a conceptualization of a problem is established, cognitive principles work to impute certainty to the correctness of that view by selective processing of incoming information which depreciates the value of disconfirming evidence and by "categorical inferences" of certainty or impossibility.²³ With regard to the latter point, Steinbruner

²⁰ *Ibid.*, 73.

²¹ *Ibid.*, 88.

²² *Ibid.*, esp. 103-09.

²³ Experimental evidence suggests that when the objective probability of a desirable occurrence is relatively high, people tend to view that probability as approaching certainty; conversely, impossibility is often imputed to events which are only moderately unlikely. DeRivera (fn. 14), 109.

discusses John Kennedy's inference that he would be impeached if the missiles were not removed from Cuba:

That Kennedy might have taken his impeachment quite seriously as the outcome of his following a conciliatory course in the crisis is [harder] to imagine within the analytic paradigm. It would appear as a rare limiting case (all other outcomes each assigned a probability of zero).

By contrast, cognitive theory readily accounts for the existence of firm, categorical, nonprobabilistic beliefs in the presence of intense uncertainty. The cognitive processing mechanisms of the mind provide a number of ways in which beliefs become established, independent of the weight of objective evidence. . . . To the cognitive theorist it becomes quite readily conceivable that Kennedy meant exactly what he said about his impeachment—as he said it. As a general matter, cognitive theory makes the assumption that structure will be imposed on certain situations, and uncertainty thereby resolved, not by probabilistic judgments but by categorical inferences.²⁴

COGNITIVE DYNAMICS AND DECISION MAKING DURING THE CUBAN MISSILE CRISIS

The following case study of U.S. decision making during the Cuban missile crisis will stress the role of the cognitive principle of management of inconsistency in structuring the decision makers' conception of their environment under conditions of uncertainty. Specifically, it will point out:

- (1) the tendency toward unwarranted assumptions of certainty regarding opponents' intentions and the correctness of one's chosen policy;
- (2) the tendency to see the two principal values at stake in the crisis not as conflicting but as consonant;
- (3) the tendency to adopt a strategy of compellence (which entails no trade-offs for the compeller), rather than a strategy of negotiation (which necessitates "value integration"—i.e., the recognition of a trade-off between conflicting values).

III. THE CUBAN MISSILE CRISIS: A FOURTH CUT

Graham Allison has pointed out that the nature of the decision environment in the Cuban missile crisis makes it particularly well suited for "Model I" (rational actor) analysis: "In the context of ultimate

²⁴ Steinbruner (fn. 9), 110. The principal study which Steinbruner uses to illustrate his theory is the debate on the M.L.F. (multilateral force). His discussions of the Cuban crisis are limited to this examination of Kennedy's certainty regarding his impeachment and to one of Kennedy's certainty in his inferences about Soviet intentions and the consequences of a no-response policy, 89.

* compellence may not be possible (in it) as "perfect" outcome, but at a

danger to the nation, a small group of men, unhitched from the bureaucracy, weighed the options and decided.”²⁵ The decision makers were highly conscious of the need to approach their dilemma in a rational analytic manner. Furthermore, their chosen course of action was highly successful in achieving their goals. Hence, in such a case, Allison argues alternative models “are forced to compete on Model I’s home ground. The dimensions and factors uncovered by Model II [bureaucratic processes] and Model III [bureaucratic politics] in this case will therefore be particularly suggestive.”²⁶ This is also true for an explanation based on nonrational cognitive processes of decision.

The present analysis will focus on the overall shaping of the decision makers' attitudes toward their options and the process by which the options were weighed, rather than on nonrational constraints on the decision.

AVOIDING THE TRADE-OFF

Kennedy and most of his advisors conceptualized the decision in a way that avoided placing their two relevant values (war avoidance and the maintenance of prestige in the international arena) in conflict. He achieved this by conceiving the problem in terms of “risking war now” versus “running an even greater risk of war later.” If Kennedy did not act to save U.S. international prestige *now*, the loss of that prestige would contribute to an increased chance of war later. Kennedy attributed virtual *certainty* to the view that the Russians would be encouraged to push for greater and greater concessions in Berlin and elsewhere unless the missiles were *unconditionally* removed. Viewed in this light, Kennedy’s choice of avoiding a diplomatic solution (such as trading Cuban missiles for Jupiters in Turkey) in favor of an essentially unconditional ultimatum must have seemed reasonable to him despite his estimate that his course of action entailed a probability “between one out of three and even” of nuclear war.²⁷ It would be worth taking such horrendous risks if the diplomatic or do-nothing options entailed even greater long-run risks of war. In sum, Kennedy’s “war now versus war later” formulation of the problem permitted him to deny the trade-off relationship which seemingly existed between the values of avoiding war and maintaining prestige. In fact, it permitted him to view the values as mutually reinforcing: standing firm in Cuba would demonstrate America’s resolve and, hence, reduce the long-run likelihood of war.

²⁵ Allison (fn. 2), 8-9.

²⁶ *Ibid.*, 9.

²⁷ Theodore Sorensen, *Kennedy* (New York: Harper & Row 1965), 705.

Clearly, Kennedy's formulation of the problem is not prohibited by the rational model simply because it corresponds closely to the formulation predicted by the cognitive model. It is Kennedy's imputation of certainty to a highly uncertain situation which most strongly suggests the operation of the cognitive model, rather than the "no trade-off" character of his formulation *per se*. Kennedy's decision environment was highly "underdetermined." Many and diverse interpretations could be and have been given to the Soviets' motivations—and to their future intentions, had the missile gambit been successful. Some of these interpretations would hardly have justified a one-in-three risk of nuclear war as the price of removing the missiles, especially when their removal could have been secured with less risk (albeit at a somewhat higher price) diplomatically. The rational paradigm offers no guidance as to how such vast uncertainties can be resolved. The cognitive paradigm, however, explains unambiguously, in terms of cognitive principles and pressures, why Kennedy and the ExCom decided as they did. (

THE SUBJECTIVE STRUCTURING OF THE DECISION ENVIRONMENT

In order to support the cognitive view of Kennedy's decision process, it will be necessary to look more closely at the seeming trade-off which Kennedy faced, and at his manner of dealing with it.

To repeat, there were two values involved in the missile crisis. The first consisted of a web of interests including the preservation of the military *status quo ante*, the maintenance of America's international prestige, and the need to demonstrate to the Soviets that destabilizing is accomplis and "salami tactics" would not be tolerated—with all of these interests requiring an unconditional withdrawal of the missiles from Cuba. The second was to avoid a nuclear war which might be precipitated by measures designed to achieve an unconditional withdrawal.

Aside from the question of whether, objectively, a trade-off relationship exists, it is undeniable that the two issues are, in Steinbruner's jargon, "highly interactive." That is, policies that affect one value must intimately affect the other. Thus, reality constraints are too strong to achieve a stable disaggregation of the values by the simplest and most routine cybernetic means—for instance, letting one bureaucracy handle value A and another handle value B, as in the example of flood control.

In such situations, the decision maker may be forced to deal with the values analytically; but, since uncertainty is great in this case, one might expect subconscious, nonrational, cognitive processes to structure the decision in such a way that the values do not conflict.

Intuitively, it is not hard to imagine the cognitive stress which the sacrifice of either value would have entailed for President Kennedy, especially when his own prestige as well as that of the United States was on the line. The Bay of Pigs, his ^{NO} disastrous confrontation with Khrushchev in Vienna, and the domestic allegation that he was long on profile but short on courage, all combined to make the unconditional withdrawal of the missiles an important value indeed, perhaps tantamount to the avoidance of nuclear war itself.

With two such vital values at stake, it is not hard to imagine that Kennedy was under strong cognitive pressure to view his situation in a way that would permit him to adopt a strategy which held out the possibility of winning big with respect to both values—even if it meant running the risk of losing big as well. An analytic, trade-off-oriented formulation of the problem could not achieve this for Kennedy; a cognitive, “no trade-off” formulation could.

“A MISSILE IS A MISSILE”

Conceptually, there were two possible ways to avoid the trade-off. The first, and simplest, would have been to disclaim the significance of the introduction of the missiles into Cuba. By telling themselves that the missiles did not, in any appreciable way, affect the military balance or undermine the prestige of the United States, the members of the ExCom could have acquiesced in the installation of the missiles and incurred no cognitive costs. Both values—prestige maintenance and war avoidance—could have been viewed as essentially irrelevant to the missile issue.

In fact, at the beginning of the ExCom's deliberations, Secretary of Defense McNamara argued for exactly this view: “A missile is a missile. It makes no great difference whether you are killed by a missile fired from the Soviet Union or from Cuba.”²⁸ Ted Sorensen reports: “At some (but not all) Pentagon advisers pointed out to the President, we had long lived within range of Soviet missiles, we expected Khrushchev to live with our missiles nearby, and by taking this addition calmly we would prevent him from inflating its importance.”²⁹

Objective arguments on this point were mixed. McNamara's view was bolstered by the fact that the vulnerable, soft-site missiles could be useful only in a first strike, and that the Soviets were far from a credible first-strike capability even with the additional deliverable warheads.

²⁸ Elie Abel, *The Missile Crisis* (New York: Lippincott 1966), 43.

²⁹ Sorensen (fn. 27), 682-83.

provided by the Cuban emplacements.³⁰ Meanwhile, the armed services pointed to the reduced warning time for getting American bombers off the ground,³¹ and the diplomats and politicians stressed the importance of “appearances,” independent of strictly military considerations.³² In any case, uncertainty regarding the significance of the Russians' gambit was great enough to permit McNamara to rationalize his dissonance-avoiding formulation.

President Kennedy, however, rejected the “do nothing” course of action from the outset. “We'll have to do something quickly,” he told the ExCom. “I suppose the alternatives are to go in by air and wipe them out, or to take other steps to render the weapons inoperable.”³³ Kennedy was operating under cognitive pressures different from those that influenced McNamara. In the wake of Vienna, Berlin, and the Bay of Pigs, members of both parties in Congress were urging Kennedy to stand firm against Khrushchev's encroachments. Even before the revelation about the emplacement of medium- and intermediate-range missiles, Republican candidates were making Kennedy's do-nothing policy in Cuba a central issue of the election campaign. After the revelation, Kennedy saw his impeachment as the likely consequence unless they were removed. To quote Roger Hilsman, “The United States might not be in danger, but the Administration most certainly was.”³⁴ Whereas the formulation “a missile is a missile” may have diminished the cognitive pressures on McNamara (who was chronically insensitive to political concerns), it could only heighten Kennedy's troubles and exacerbate the trade-offs he faced.

WAR NOW VERSUS WAR LATER

The other possible means for avoiding the trade-off between the avoidance of war and the maintenance of prestige was the formulation, “risk war now to avoid certain war later.” This, in fact, was the conceptualization adopted by Kennedy. In his speech of October 22 announcing the blockade, Kennedy said: “Aggressive conduct, if allowed to grow unchecked and unchallenged, ultimately leads to war. This nation is opposed to war. We are also true to our word. Our unswerving

³⁰ See I. F. Stone, “The Continuing Debate,” in Robert A. Divine, *The Cuban Missile Crisis* (Chicago: Quadrangle 1971), 163; and Arnold L. Horelick, “The Cuban Missile Crisis: An Analysis of Soviet Calculations and Behavior,” *World Politics*, xvi (April 1964).

³¹ Abel (fn. 28), 52.

³² Abel (fn. 28), 49.

³³ Hilsman, *To Move A Nation* (Garden City, N.Y.: Doubleday 1967), 197.

³⁴ Sorensen (fn. 27), esp. 678.

opposite to: “Do never leads to war.”
(or “Never leads to war.”)

* Other LIES - wif? → To protect his? and the
prestige issue. with his and his other success...

objective, therefore, must be to prevent the use of these missiles against this or any other country and to secure their withdrawal or elimination from the Western Hemisphere."³⁵ *ASSUMING OUR ACTION DID NOT INCREASE RUSSIAN WILLINGNESS*

Robert Kennedy recalled that "we all agreed in the end that if the Russians were ready to go to nuclear war over Cuba, they were ready to go to nuclear war and that was that. So we might as well have the showdown then as six months later."³⁶

In the ExCom, Secretary of State Rusk had concluded his case for an air strike with a similar sentiment: "If we don't do this, we go down with a whimper. Maybe it's better to go down with a bang."³⁷

Presidential biographers Schlesinger and Sorensen summed up Kennedy's and, generally speaking, the ExCom's attitude, as follows:

In a general sense, the decision [to introduce missiles] obviously represented the supreme Soviet probe of American intentions. No doubt a "total victory" faction in Moscow had long been denouncing the government's "no win" policy and arguing that the Soviet Union could safely use the utmost nuclear pressure against the United States because the Americans were too rich or too soft or too liberal to fight. Now Khrushchev was prepared to give the argument its crucial test.³⁸

The Soviets would move [in Berlin], [Kennedy] expected, but they probably would whatever we did; and perhaps this show of strength would make them think twice about it.³⁹

This view *per se* was neither necessarily wrong nor necessarily incompatible with the analytic model. However, the unswerving nature of the President's commitment to this view under conditions of great uncertainty is more reminiscent of the cognitive than of the analytic paradigm.

COMPELLENCE AND CERTAINTY

Kennedy's steadfast commitment to the "war now versus war later" view is directly reflected in the strategy he adopted to force the Russians to remove their missiles. That strategy was essentially one of compellence: a strategy based on the renunciation of choice.

The President and his brother assured each other that they had no choice but to compel the Russians to dismantle the missiles unconditionally. "It looks really mean, doesn't it? But then, really there was no

³⁵ Robert F. Kennedy, *Thirteen Days* (New York: Norton 1969), 166-67.

³⁶ Robert Kennedy, quoted in Stewart Alsop and Charles Bartlett, "In Time of Crisis," *Saturday Evening Post* (December 8, 1962), 16.

³⁷ Abel (fn. 28), 70.

³⁸ Arthur Schlesinger, Jr., *A Thousand Days* (Boston: Houghton Mifflin 1965), 75.

³⁹ Sorensen (fn. 27), 694.

IT (SEE HEISENBERG AND MACARTUR ON CHINESE) other choice. If they get this mean on this one in our part of the world, what will they do on the next?"⁴⁰

The President then tried to convince the Russians that he was locked into a no-choice situation. If a blockade did not get the missiles out, an air strike would, Kennedy told Ambassador Dobrynin via his brother. "In effect, he told the Russians that he was not interested in compromise solutions; he had no choice but to insist on the unconditional removal of the missiles. Therefore, the Soviets would have only two options: submit to his demands or provoke an escalation of the conflict. However, since Kennedy had read *The Guns of August* and was attuned to the Soviets' need to avoid humiliation,⁴² he would permit them the option of capitulating gracefully before he unilaterally imposed a military solution. But if the Soviets were really intent on pushing him, Kennedy told them in effect, there was nothing he could do to avert escalation.

Despite Albert and Roberta Wohlstetter's protestations about controlling the risks in Cuba, the fact remains that "all [the Kennedys] skill would have been to no avail if in the end [Khrushchev] had preferred his prestige, as they preferred theirs, to the danger of a world war."⁴³ And despite Sorensen's and Schlesinger's description of the ExCom's decision process as painstakingly open and rational, the fact remains that the President and most of his advisors perceived only one real option: an uncompromising policy based on compellence, rejecting any trade-off of values. Such policies are the hallmark of the cognitive decision maker.

THE FAILURE TO NEGOTIATE

An analytical decision maker, on the other hand, would have characteristically adopted a strategy based on negotiation, compromise, and explicit value trade-offs. Kennedy did have an opportunity to strike a bargain in which both the U.S.S.R. and the U.S. would have given up some prestige in order to eliminate the immediate danger of war. The Soviets offered to remove their missiles from Cuba if the Americans would remove theirs from Turkey.⁴⁴ Such a trade had already been

⁴⁰ President Kennedy, quoted in Kennedy (fn. 35), 67.

⁴¹ Abel (fn. 28), 199.

⁴² Kennedy (fn. 35), 127.

⁴³ Wohlstetter and Wohlstetter, "Controlling the Risks in Cuba," in Robert J. Art and Kenneth N. Waltz, eds., *The Use of Force* (Boston: Little, Brown 1971), 234. The quotation is from Stone (fn. 30), 164.

⁴⁴ In addition, each side was to agree not to violate the sovereignty of the other's client. It should be noted that the final agreement did entail one element of "compromise." The United States agreed to forswear an invasion of Cuba as a condition for the removal of

proposed in the American press as a face-saving, war-averting compromise. Walter Lippmann had argued that "the two bases could be dismantled without altering the world balance of power."⁴⁵ Inside the ExCom, Adlai Stevenson also argued for the compromise. As Ambassador to the United Nations, he realized that the emplacement of missiles in Turkey was in fact quite comparable to the emplacement in Cuba, and that he would find it hard to construct a tenable argument against the equity of the proposed trade.

In addition, Stevenson had hoped to link this exchange to a broader settlement of some contentious issues between the two superpowers. Schlesinger reports, however: "The President . . . rightly regarded any political program as premature. He wanted to concentrate on a single issue—the enormity of the introduction of the missiles and the absolute necessity for their removal. Stevenson's negotiating program was accordingly rejected."⁴⁶

Although Kennedy had previously ordered the dismantling of the missiles in Turkey (an order which had never been carried out), he perceived any compromise affecting Turkey as undermining a US commitment. Still, he *did* ask Roswell Gilpatric to prepare a scenario for the removal of the missiles in Turkey and Italy.⁴⁷ On the one hand, Kennedy remained firm in his cognitively reinforced view that the long-term likelihood of nuclear war would increase greatly if he appeared to be giving in to Soviet pressure. On the other hand, he seems to have balked at the thought that a very marginal diminution of the American commitment to Turkey could have ramifications significant enough to warrant a one-in-three risk of nuclear war.

Kennedy found a way to avoid the trade. As the cybernetic model would predict, he seized upon his brother's idea of rejecting the most recent and most official offer to trade Cuban for Turkish missiles and accepting instead Khrushchev's informal offer to remove the missiles simply in exchange for a pledge not to invade Cuba. Although the informal offer (1) was only inferred from an ambiguous and emotional letter from Khrushchev and transferred more explicitly through a highly unorthodox, unofficial contact⁴⁸ and (2) had apparently been superseded in the Kremlin by a more recent and more stringent one,

the missiles. That was not much of a concession, and Kennedy certainly lost no prestige by agreeing to it. In fact, he had to warn his subordinates not to be excessively glib in public print about the settlement.

⁴⁵ Stone (fn. 30), 221.

⁴⁶ Schlesinger (fn. 37), 741; emphasis added.

⁴⁷ Stone (fn. 30), 222.

⁴⁸ Abel (fn. 28), 175-77.

Kennedy chose to "accept" the Khrushchev "offer." He then locked himself into that policy by informing Dobrynin that an air strike would soon follow if his "acceptance" were not agreed to by the Politburo.

Although Robert Kennedy privately assured Dobrynin that in the long run "there would be no problem about the missiles" in Turkey, that was hardly the point. It was prestige and appearances that mattered, not the outmoded Jupiter missiles. Thus, President Kennedy had violated his own cardinal rule of crisis management: "Above all, while defending our own vital interests, nuclear powers must avert those confrontations which bring an adversary to the choice of either a humiliating retreat or a nuclear war."⁴⁹

In sum, Kennedy's failure to negotiate, his adoption of the so-called Trollope ploy of accepting a non-offer, his desire to "concentrate on a single issue," and, in general, his insistence on a compellence strategy in which only the adversary must deal with trade-offs, are all indicators of a non-analytic, cognitive decision process.

By the time Kennedy announced the blockade, his perception of the situation and his analysis of the options were firmly established. In his mind, he had structured his environment in a way which subjectively disposed of dissonance-causing trade-offs. As predicted by the cognitive paradigm, he had seen certainty in an inherently uncertain situation; he was confident that his chosen policy was not merely the right one, but the only one he could possibly adopt under the circumstances.

On the day he announced the blockade, according to Schlesinger's report, "Kennedy himself was never more composed."⁵¹

It is fortunate that the Soviet process of decision was not ruled by the same cognitive pressures as Kennedy's. Khrushchev's apparent willingness to opt for peace rather than prestige led to the settlement whereby an unwanted war was avoided.⁵² However, decision makers who use compellence strategies cannot always count on their adversaries to weigh the costs and benefits "correctly" and to opt for peace. The origins of World War I, for example, illustrate the tragic outcome that can result when both sides view their dispute as a "no trade-offs" game, and adopt strategies based on compellence.

⁴⁹ Stone (fn. 30), 222.

⁵⁰ Kennedy, speech at American University, June 10, 1963, quoted in Abel (fn. 28), 91.

⁵¹ Schlesinger (fn. 37), 742.

⁵² This does not necessarily indicate that Khrushchev's decision was analytical in the sense of weighing trade-offs, making indifference calculations, etc. It is possible that the cognitive pressures on Khrushchev and his colleagues were structured differently from those on Kennedy. Only detailed information on the Soviets' decision process, which is currently unavailable, could resolve this question.

IV. COGNITIVE PROCESSES AND THE FAILURE OF DETERRENCE

Most scenarios suggest that World War III is likely to ensue from a two-value game between the superpowers. The case study discussed in this analysis illustrates the tendency of human decision makers to deal with such situations by avoiding the recognition of the trade-off relationship that exists between a player's own values. According to experimentally supported cognitive theories, this avoidance reduces "cognitive dissonance" and re-establishes cognitive consistency.

In the case study, the simplest method of ignoring the trade-off relationship consists of the view that there is no contradiction between values because one of them is not really threatened. Secretary of Defense McNamara employed this method of trade-off avoidance when he argued that a missile is a missile, whether launched from Cuba or the Soviet Union.

However, sometimes reality constraints (for instance, obvious diplomatic costs of a do-nothing solution) or political constraints (for instance, Republican and Congressional attitudes during the Cuban crisis) can preclude this direct means of avoiding a trade-off. In that case, the decision maker will tend to sidestep the trade-off between war avoidance and, say, prestige maintenance by conceptualizing his dilemma according to a "risk war now or incur destruction later" formula. The decision maker thereby allows himself to argue that only by running some risk of war over the immediate issue of contention can he demonstrate resolve to his adversaries and, thus, avoid an inevitable war in the future. This formulation makes the two values consonant and extricates the decision maker from the dissonance-producing trade-off. However, it is likely to produce war if the adversary also adopts it.

Strategists have recognized that the "better war now than war later" concept presents real problems for the theory of deterrence, even aside from the lessons of cognitive theory. To quote Warner Schilling:

The level of destruction that would attend a nuclear war becomes less relevant if the critical choices should be made through reference to relative, rather than absolute, costs (better World War III now than later).
... there will be many opportunities for statesmen to conclude—accurately or inaccurately—that ... the intentions of their opponent make the costs of war unavoidable.⁵³

If those with conventional views of nuclear strategy and crisis management, based largely on the rational-analytic paradigm, interpret such

⁵³ Schilling, "Technology and International Relations," *The International Encyclopedia of the Social Sciences* (New York: Macmillan and Free Press 1968), 593.

remarks as a challenge to the logic of deterrence, the lessons of cognitive theory must underscore and redouble this concern. Whereas conventional strategists see the "better war now than war later" formulation as a possible result of objective calculations of interest, the cognitive model suggests that statesmen are even more likely to fall back on such a formulation than objective calculations would warrant, since that formula solves one of the prevalent, subconscious problems of decision makers under uncertainty. *SEE "DEONTOLOGICAL" (MORAL)*

Not only will the cognitive decision maker tend to seek out this formula, but he will tend to lock himself into this conception of his environment and the adversaries' intentions. Cognitive theory argues that the mind craves certainty and will work to establish it even when it is unwarranted by objective conditions. Selective processing and recall of information, in accordance with the principles of reinforcement and cognitive consistency, can create such certainty. *PROBLEM*

As a result, the decision maker is likely to become locked into a strategy based on compellence. As the case study has shown, it is a short step from the formulation "better risk war now than face the certainty of incurring it later" to a strategy based on closed options and no choice. Ole Holsti has pointed out that "when [cognitive?] stress increases, problem solving tends to become more rigid," because the ability to "resist the pull of closure" is reduced.⁵⁴ In addition, the case study suggests that the cognitive decision maker is highly unlikely to adopt a policy based on negotiation. Negotiation entails compromise and represents the quintessence of explicit recognition of value trade-offs. The cognitive costs involved will be avoided by the decision maker under uncertainty if at all possible. *But, JFK...*

Compellence is a most dangerous game if both players are locked into that strategy by their trade-off-avoiding conceptualizations. Steinbruner remarks:

Consider, for example, the game of Chicken, long a favorite of theorists of bargaining as a simple model of political conflict. In one of its more dramatic forms, the game consists of two players each of whom drives directly at the other at 60 mph down the center of a deserted highway with an audience of peers looking on. The first player to swerve to avoid collision loses, is labeled a chicken, and suffers the contempt of his peers. The game poses a classic value trade-off problem—survival on the one hand, preservation of honor on the other. Thomas Schelling has provided an analysis of the game under the assumption that both players

⁵⁴ Holsti, "Crisis, Stress, and Decision-making," *International Social Science Journal*, XLIII, No. 1 (1971), 61-62, citing Sheldon J. Korchin and Seymour Levine, "Anxiety and Verbal Learning," *Journal of Abnormal and Social Psychology*, Vol. 54 (March 1957), 238.

are analytic decisionmakers. The first player to establish clearly an irreversible commitment to the center of the road (such as by tying the wheel and climbing in the back seat) will win the game. The other player, still retaining control, faces a certainly of death as against a finite loss of honor, and everyone knows how an analytic actor will resolve that choice. The scenario, which Schelling labels "compellence," is played out daily, usually for lesser stakes, on street intersections throughout the nation.

One's sense of this game changes drastically if a cognitive decisionmaker is inserted into the scenario. There are at least two good reasons why such a decisionmaker might not yield to a cleverly established commitment by the opposing player: first, while focusing on other things, he may not notice the commitment; second, he may simply fail to engage in a value trade-off while carrying out his prior intention. Rather than compellence, with such a player involved, one readily imagines disaster. Viewed from the assumptions of the cognitive paradigm, moreover, it is not a disaster which emerges from an error in calculation, but rather it is the consequence of the normally functioning decision process.⁵⁵

In sum, the analysis of the Cuban case study in light of cognitive theory has re-emphasized the dangers of a compellence strategy. It should also make us more circumspect about the tendency to regard deterrence as a *deus ex machina* for avoiding nuclear war.

The present analysis suggests that, in situations structured along the lines of a probable nuclear confrontation, there are "regularities of human thought" that tend to lead decision makers away from seeing the trade-offs which must be seen if deterrence is to work. At the same time, it is clear that confrontations for high stakes between superpowers do not inevitably result in nuclear destruction. On the contrary, there appear to be several mitigating factors:

(1) A world of mutual assured destruction may impose reality constraints on one or both players, which may lead to a stronger tendency to recognize trade-offs than in a first-strike world. Whereas the Cuban crisis occurred in a world where "mutual assured destruction" tended to limit the advantages of "mobilizing" first, Kaiser Wilhelm and Tsar Nicholas confronted each other in a situation that encouraged a preemptive first strike. According to the doctrine of the day, the reality of warfare in the railroad era put a premium on rapid mobilization and gave strong incentives against being slow to respond to an opponent's preparation for war. This situation, in which both players employed compellence strategies in a first-strike world, proved to be a deadly combination.

(2) In a sense, the argument that the risks in Cuba were controlled

⁵⁵ Steinbruner (fn. 9), 147.

may be right: Perhaps a moderate, well-thought-out compellence strategy (like the blockade) does involve fewer risks than a hysterical approach (like the Wilhelm-Nicholas "I can't stop" correspondence). Because the reality factor does seem to matter, a decision maker faced with a calm (and even semi-accommodating) ultimatum may be less able to rationalize a "war now versus war later" formulation, and more likely to evaluate his trade-offs analytically than if confronted with hysterical threats.

(3) Khrushchev's capitulation gives rise to the suspicion that, even at the brink, not all decision makers are subject to the pressures of dissonance which prohibit value integration. What explains this fact? It might be speculated that Kennedy's dissonance was high because both values—war avoidance and prestige maintenance—were extremely precious and were subjected to an extreme challenge by the Cuban confrontation. For Khrushchev, the dissonance may not have been as great if he did not view Soviet (and his personal) prestige as vitally challenged by the Cuban issue. The prospects of sacrificing a lesser value for a greater one may not cause sufficient dissonance to force the subconscious to avoid the recognition of that trade-off.

From the standpoint of policy, it would be idle to warn decision makers about dangerous cognitive tendencies toward "value disaggregation" in a crisis. However, insights from cognitive theory may be instructive for peacetime discussions of weapons procurement policy. In a world of perfectly invulnerable strategic forces, even a cybernetic-cognitive decision maker might find it difficult to rationalize a "war now versus war later" formulation of his dilemma. As the case of World War I shows, in a situation of perceived vulnerability to a first strike, decision makers may be strongly inclined toward this dangerous formulation. Thus, while strategic stability has been recognized as important by strategists working in the rational-analytic framework, it becomes doubly important when viewed in the light of cognitive theory.

Strategic stability based on the mutual survivability of retaliatory forces has been a proclaimed goal of American policies of strategic procurement and arms limitation. However, it has had to compete with other goals which often conflict with the requirements of stability. The deployment of large numbers of high-accuracy MIRV's demonstrates that considerations of stability are not always at the top of the list when these competing goals are considered. Cognitive theory would seem to support the case that strategic stability should be given a higher priority in such deliberations.

is this
a "prestige"
factor? Is it
contingent
to survive
is fear of
this?

"DET": A
MACHINE FOR
PRODUCING
(POSTPONED)
NUCLEAR
WAR.
(SEE
"S.M.")
Stability
machine

(NO -
US
not
game
stability
(and USG/
Pro/USG
prospect
of MAD
with SU prospect of US emp! Maximal "system stable"

Blount
note

No

kill

yes

But
if R (N?) had been present!